

ONTARIO INSTITUTION
FOR THE
EDUCATION OF THE BLIND,
BRANTFORD, ONT., CANADA.

ANNUAL REPORTS

OF

INSPECTOR LANGMUIR,

PRINCIPAL HUNTER, M.A.

DR. W. D. CORSON, PHYSICIAN AND SURGEON.

FOR THE

YEAR ENDING SEPTEMBER 30TH, 1878.



Toronto:

PRINTED BY C. BLACKETT ROBINSON 5 JORDAN STREET.
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INSTITUTION FOR THE EDUCATION OF THE BLIND, BRANTFORD.

REPORT OF INSPECTOR LANGMUIR.

During the Official year which closed on the 30th September last, and which comprised portions of the seventh and eighth sessions of this Institution, 175 pupils were in attendance as compared with 148 in the preceding year.

The following statistical information in respect to these 175 blind youths is furnished and may be of interest to some. It is classified under the headings of nationality, religion, ages, and occupation of parents.

NATIONALITIES.

American.....	4	Norwegian.....	1
Canadian.....	58	Scotch.....	18
English.....	43	Wendish.....	3
French.....	2	Not stated.....	1
German.....	6		
Irish.....	39	Total.....	175

RELIGION.

Baptists.....	8	Methodists.....	55
Bible Christians.....	3	Presbyterians.....	26
Congregationalists.....	1	Quakers.....	2
Davidites.....	2	Roman Catholics.....	20
Disciples.....	1	Tunkers.....	1
Episcopalians.....	45	Not stated.....	2
Latter Day Saints.....	1		
Lutherans.....	8	Total.....	175

AGES.

6 years.....	1	11 years.....	9
7 ".....	4	12 ".....	4
8 ".....	5	13 ".....	10
9 ".....	7	14 ".....	9
10 ".....	7	15 ".....	14

16 years.....	9	26 years.....	6
17 ".....	9	27 ".....	3
18 ".....	18	28 ".....	3
19 ".....	13	29 ".....	1
20 ".....	13	30 ".....	2
21 ".....	8	31 ".....	1
22 ".....	9	37 ".....	1
23 ".....	1	Not stated.....	4
24 ".....	3		
25 ".....	1	Total.....	175

OCCUPATION OF PARENTS.

Agent.....	1	Mill-wright.....	1
Artist.....	1	Miner.....	1
Axe Grinder.....	1	Officer.....	1
Barber.....	1	Painter.....	1
Blacksmiths.....	2	Peddler.....	1
Butchers.....	2	Police Constable.....	1
Care-taker.....	1	Saddler.....	1
Carpenters.....	15	Sailor.....	1
Contractor.....	1	Steamboat Engineer.....	1
Coopers.....	2	Stonecutter.....	1
Customs Officer.....	1	Shoemakers.....	3
Educator.....	1	Tailor.....	1
Farmers.....	69	Teamster.....	1
Gardener.....	1	Tow Agent.....	1
Hotel keepers.....	4	Vessel Agent.....	1
Labourers.....	33	Waggon Maker.....	1
Law Clerk.....	1	Weaver.....	1
Machinist.....	1	Wood Turner.....	1
Market Gardeners.....	2	Not stated.....	4
Merchants.....	8		
Millers.....	3	Total.....	175

The following summary exhibits the operations of the Institution, in respect to the attendance of pupils, during each year since its opening.

	Male.	Female.	Total.
Attendance for portion of year ending 30th Sept., 1872.....	20	14	34
Attendance for year ending 30th Sept., 1873.....	34	24	58
Attendance for year ending 30th Sept., 1874.....	66	46	112
Attendance for year ending 30th Sept., 1875.....	89	50	139
Attendance for year ending 30th Sept., 1876.....	84	64	148
Attendance for year ending 30th Sept., 1877.....	76	72	148
Attendance for year ending 30th Sept., 1878.....	91	84	175

During the period embraced in the foregoing dates, an aggregate of 238 pupils have been in attendance in the Institution, of whom 133 were males and 105 females. The counties and cities of the Province from which these pupils were received are as follows:—

	M.	F.	T.		M.	F.	T.
Addington.....	1	0	1	Bruce.....	3	6	9
Belleville.....	3	0	3	Carleton.....	1	1	2
Brant.....	2	3	5	Dundas.....	2	2	4
Brantford.....	3	4	7	Durham.....	1	3	4

	M.	F.	T.		M.	F.	T.
Elgin.....	2	1	3	Norfolk.....	4	3	7
Essex.....	1	1	2	Northumberland.....	1	6	7
Frontenac.....	2	1	3	Ontario.....	3	3	6
Glengarry.....	1	0	1	Ottawa.....	2	0	2
Grenville.....	2	0	2	Oxford.....	1	1	2
Grey.....	3	4	7	Perth.....	2	4	6
Haldimand.....	0	4	4	Peterboro'.....	5	2	7
Halton.....	2	0	2	Prince Edward.....	1	2	3
Hamilton.....	3	4	7	Renfrew.....	6	2	8
Hastings.....	3	1	4	Russell.....	1	1	2
Huron.....	4	4	8	St. Catharines.....	2	0	2
Kingston.....	1	2	3	Simcoe.....	3	4	7
Kent.....	4	2	6	Stormont.....	2	0	2
Lambton.....	2	0	2	Toronto.....	9	6	15
Leeds.....	5	1	6	Victoria.....	2	1	3
Lanark.....	0	1	1	Waterloo.....	4	3	7
Uncertain.....	1	0	1	Welland.....	2	1	3
Lennox.....	0	1	1	Wellington.....	7	4	11
Lincoln.....	3	1	4	Wentworth.....	6	4	10
London.....	3	5	8	York.....	5	3	8
Middlesex.....	6	3	9				
Muskoka.....	1	0	1	Total.....	133	105	238

A history of the operations of the institution for the past twelve months will be best given in the reproduction of the minutes of inspection recorded at my various visits, of which the following is a synopsis :

My first inspection of the Institution for the Blind was made on the 5th and 6th February, when the names of 133 pupils were registered, although only 126 were in residence, the remainder being absent on leave, owing to sickness and other causes.

I saw all the pupils; their health was good and only one was confined to bed. An examination of the Physician's Journal shewed that very little sickness had prevailed during the session. The dietary lists were looked over and the meals served during my stay were examined and found to consist of good wholesome food, in ample supply and abundant variety. The decorum and order which prevailed during the meals were worthy of high commendation.

The condition of the house was generally satisfactory, both in respect to order and cleanliness, and my visits to the classes, workshops and the other departments convinced me that the affairs of the institution—domestic, educational and official—were being well and efficiently conducted.

The number of pupils then in the house quite exhausted the accommodation and no more could be received until the new wing, which was nearly ready, was opened. As the additional space that would then be furnished was only designed for males, the pressure for the admission of females would not be relieved. Under these circumstances, and in view of the fact that the Government had decided not to proceed at the present time with the erection of the west wing, I strongly recommended that a sufficient amount be placed in the Supplementary Estimates to build a house for the Principal, so that the rooms in the Institution, then being used for his family might be taken for girls' dormitories and official purposes. This recommendation met with the approval of the Government, and the sum of \$6,000 was voted by the Legislature to carry it out.

In order to obtain a better classification of the male pupils at night, I recommended that the large dormitory, in which nearly fifty beds were made up, should be subdivided, by partitions, into three departments. Each room to have enclosed presses for the pupils' clothing, and distinct lavatory arrangements.

I also brought under the notice of the Public Works Department the insufficient means of heating the main structure, which would be rendered still more so by the opening of the new wing and the flow of steam to that quarter. Not only is the boiler capacity insufficient for the generation of the amount of steam required, but the piping and its arrangements are exceedingly defective and a constant bill of expense for repairs.

For some reasons which have not been satisfactorily explained the plaster ceilings of this institution are constantly falling down, sometimes to the great danger of inmates. To overcome this trouble I recommended that the plaster be replaced with thin matched boards painted white. The erection of a rear extension to the Lodge was also urged as the space in that house was quite insufficient for the family of the Engineer who occupied it.

With the exception of the reconstruction of the steam heating arrangements all the works above mentioned were subsequently undertaken and satisfactorily completed by the Public Works Department during the past year.

As an appropriation had been made by Parliament for the furnishing of the new wing, and for the renewal of the furniture and the purchase of certain appliances for various Departments, authority was given to the Principal to obtain offers for certain specified articles and to accept the lowest. Purchases to the extent of \$3,311.73 were subsequently made.

As the appropriation for the payment of salaries of the teaching staff had been increased from \$4,700 to \$5,300, the Principal was authorized to secure the services of an additional female teacher in the Literary Department and another female industrial instructor. He was also authorized to engage another stoker, as the work in the Engineer's Department was too great for the staff.

The Bursar was instructed as to the manner in which the industrial accounts were to be kept, in order that the exact cost of that department and the products derived from it might be shewn.

My second inspection of the Institution was made on the 4th and 5th June—two weeks before the close of the seventh session. Few changes had taken place in the population since my previous visit. The entire number of pupils that had entered during the session was 135, of whom 21 had been received for the first time. Four had been sent home owing to sickness, three for other reasons, one on account of improved sight, leaving 127 pupils in the Institution at the time of my visit. Of that number 66 were males and 61 females, and in respect of religion, 111 were Protestants of all denominations and 16 were Roman Catholics.

Minute inquiry was made into the circumstances connected with the admission of 35 pupils then in the Institution who were over twenty-one years of age. It was found that 15 had been awarded admission upon good reasons having been furnished to warrant such action, and 20 had been admitted when the pupils were under twenty-one years of age, but had not then completed their course of instruction. The Principal was instruct-

ed to make particular inquiry respecting these over age pupils, and report upon the progress they had made in the classes to which they had been assigned, and whether, in his opinion, their continued residence and instruction were desirable or necessary.

The appearance of the pupils was generally satisfactory. The girls were all tidily and some were neatly dressed, as were also the large majority of the boys. A few of the latter, however, were rather ragged, owing, the Principal stated, to the poverty of their parents and the refusal or neglect of municipalities to provide clothing. It is very clear that the duty of municipalities in this relation should be defined by statute, as well as in providing the means to pay the passages of such pupils to and from the Institution.

The health of the Institution was and had been during the whole session, exceptionally good. An examination of the Physician's register shewed that the ailments had been few and of a trifling nature; it further shewed that the Physician had been most assiduous in the discharge of the duties devolving upon him.

The condition of the house was, on the whole, very satisfactory. Overcrowding in the dormitories and want of presses for the personal clothing, of course, rendered these rooms a little untidy, the means of remedying which would, however, be provided next session.

The new wing, then quite completed, and ready for occupation, is a model building for the purpose for which it is designed, both in respect to structural finish and internal arrangement. The furniture and furnishings ordered under the authority of my last inspection minutes, and manufactured under the supervision and direction of the Principal, have been received and are the best and most improved of the kind.

At this visit the various classes were all passed through, and the progress that had been made was noted. Good discipline, system, and regularity, generally prevailed in the management of the Literary, Musical, and Industrial Departments, and so far as could be judged by a cursory examination most commendable progress had been made in all the classes. In the Literary Department, Reading, Writing, Arithmetic, Geography, History, English Literature, and other branches in which instruction is given in the Common Schools, are taught, besides lessons in the reading of point print and raised type.

The Principal reported that the new arrangements which had recently been made with a view to improving the Musical Department were working satisfactorily. Instruction was then being carried on by three resident teachers and a monitor, and by two non-resident teachers. Altogether 83 pupils were receiving instruction in vocal music, 53 in the various kinds of instrumental music, and 23 were being taught musical notation. Now that this Department is in good working order it is very desirable that a good pipe organ should be provided for the instruction of such pupils as show an aptitude for that class of music, and with a view to preparing some of them to be organists in churches. A recommendation for an appropriation for that purpose will shortly be made, and it is to be hoped that it will be favourably received.

The Industrial Department continues to be conducted with great vigour, and excellent progress has been made by the pupils in all its branches.

Authority was given for an outlay of \$500 in purchasing and planting trees and shrubs, gravelling roads, sodding and general ornamentation of the grounds. Also for the purchase of a few necessary articles of furniture and furnishing, and for whitewashing,

painting, &c. At this visit a site was selected for the house proposed to be built for the Principal, which was approved of by the Public Works Department.

Satisfactory arrangements had been made with the various railways for the return of the pupils, at the end of the session, to their respective homes at reduced rates of fare. In view of the fact that a large number of applications for admission had been received during the session, it appeared to be very necessary that a personal visitation should be made to the localities where most of the applications were received from, in order that the officers of the Institution might judge from personal observation of the general fitness or otherwise of the applicants for instruction. The Principal was therefore instructed to detail the senior male teacher and the chief industrial instructor for the performance of that duty during the vacation.

My third visit was paid to the Institution on the 4th and 5th October.

The eighth session of the Institution had opened on the 11th September, and up to the evening of the 30th September, the close of the official year, 156 pupils had entered.

Thirty of this number were in attendance for the first time, evidencing the good results of the personal visitation of the blind during the vacation. Included in the new admissions were five over-age pupils, who were allowed to enter upon good reasons having been given.

The new wing and the old building in its reconstructed state afford accommodation for about 100 boys and 75 girls; and as the 156 pupils in residence comprised 80 of the former and 76 of the latter, there were still a few vacancies for males; but until the Principal occupied his new residence, no more girls could be admitted. Anticipating, however, that the house would be ready for occupation by the 1st January, I recorded instructions respecting the manner in which the vacated space in the main building was to be occupied, through which three rooms would be obtained for additional dormitory accommodation for females, affording space for at least 20 more beds. As this, however, would be barely sufficient to meet present requirements, the erection of the proposed new wing should be proceeded with at a very early day.

The condition of the house in respect to order and cleanliness was most satisfactory, especially in the new dormitories for males. The locking up of these rooms and the exclusion of the inmates from them during the day, enables them to be kept in the best possible order. The partitioning off of the large associated dormitory into three rooms (with the main hall extending through) is a very great improvement, which it is to be hoped will soon be extended to the female side of the house.

The official, domestic and culinary departments were also found in a well-kept and orderly state.

The repairs to the ceiling done during the vacation have added much to the good appearance of the rooms as well as to their safety.

In view of the large increase in the number of pupils, the Principal was authorized to re-engage the services of a female teacher, who had resigned some time previously. The teachers in the literary and musical departments appeared to be performing their duties with great zeal and vigour, and the progress of the pupils was reported by the Principal to be very satisfactory.

In the industrial classes, 27 were receiving instruction in the manufacture of willow ware, 47 girls were being instructed in the use of sewing machines, 27 in the manufacture

of socks by machinery for the Public Institutions of the Province, 63 were being instructed daily in hand sewing, and 80 in hand knitting, bead and fancy work. The value of this large extent of industrial training to the blind cannot be over-estimated.

The assembling of the entire school for an hour at night (in two classes), when the teachers read to the pupils, is a very commendable feature in the educational training.

The current pay-list of *employees* was gone into, and explanations received from the Principal of the duties each had to perform.

For the better security of the building, it was considered necessary to engage a special night watch, instead of having that important duty performed by a man who also worked as carpenter in the afternoons, more particularly as there appeared to be sufficient work to keep a carpenter fully employed.

The utter helplessness of the blind, and their incapacity to do domestic work, renders it necessary to keep up a full staff of servants. As it appeared to be absolutely necessary, authority was given to the Principal to engage another female servant.

The requirements of the Institution for the ensuing year were very fully inquired into, and it is recommended that capital appropriation be asked for the following services in the estimates of 1879, viz. :—

For fitting up an additional class room	\$250 00
For furniture and furnishings for the new dormitories to be provided for girls in the quarters vacated by the Principal, and for the rooms of two additional teachers	500 00
Sewing machines, knitters and other appliances for Industrial De- partment	200 00
Two pianos and other instruments for the Musical Department	750 00
Books and appliances for the additional classes	400 00
	<hr/>
	\$2,100 00

The largely increased population of the Institution renders it imperative that the above mentioned appropriation should be obtained. In addition, an appropriation will also have to be asked for the furniture and furnishings for the Principal's new residence, and for the continuing of the road, sidewalk and ground improvements. The carriage road through the Institution grounds was never properly graded and gravelled, and is now overgrown with weeds. An appropriation will be asked to enable a good gravel road to be constructed; also, for a sidewalk along the road, and for planting the avenue with trees and shrubs.

The following detailed statement exhibits the expenditure incurred during the past year in maintaining the Institution :—

DETAILED STATEMENT of Expenditure of the Ontario Institution for the Education of the Blind, Brantford, for the year ending 30th September, 1878.

	\$	cts.	\$	cts.
<i>Medical Department:</i>				
Medical comforts and appliances	75	14		
		<hr/>		75 14
<i>Carried forward</i>				75 14

<i>Brought forward</i>		75 14
<i>Household Expenses (Food):</i>		
Butcher's meat	2,444 99	
Fowl	80 75	
Fish	81 86	
		2,607 60
Flour, bread and biscuits		1,222 01
Butter		781 07
<i>General Groceries, viz.:</i>		
Barley, rice, peas and meal	145 17	
Tea	298 84	
Coffee	180 95	
Cheese	31 02	
Eggs	90 77	
Fruit (dried)	123 28	
Salt, pepper, mustard, vinegar and pickles	63 42	
Syrup and sugar	710 69	
Unenumerated	130 84	
		1,774 98
Fruit and vegetables		172 52
<i>Bedding and Clothing:</i>		
Bedding	39 30	
Clothing for orphans	94 86	
Shoes for orphans	30 75	
		164 91
<i>Fuel:</i>		
Coal	2,716 01	
Wood	135 38	
		2,851 39
<i>Light:</i>		
Gas	1,175 20	
Oil, \$4.01; matches, \$7.13	11 14	
		1,186 34
<i>Laundry, Soap and Cleaning:</i>		
Brushes, brooms, pails, tubs and mops	54 28	
Bathbricks, blacklead and blacking	5 43	
Soap	82 74	
Laundry	37 32	
Whitewashing, disinfectants, &c.	60 22	
		239 99
<i>Books, Apparatus and Appliances:</i>		
Library and school books	275 19	
School furniture and apparatus	51 05	
Industrial materials, stationery and prizes	136 10	
Subscriptions for magazines, &c.	34 00	
		496 34
<i>Advertising, Printing, Postage, Stationery:</i>		
Advertising and Printing	152 90	
Postage, telegraphs and express	216 44	
Stationery	86 53	
		455 87
<i>Carried forward</i>		12,028 16

<i>Brought forward</i>		12,028 16
<i>Furniture and Furnishings:</i>		
Furniture, renewals and repairs	234 91	
Iron and tinware, &c.	68 82	
Crockery and glassware	60 88	
<i>Farm and Garden:</i>		364 61
Feed and fodder		
Stock and implements, including repairs	313 89	
Manure, seeds, plants and labour	115 64	
	158 3'	
<i>Repairs and Alterations:</i>		587 87
Repairs, ordinary, to building, &c.	147 86	
Hardware, &c.	160 63	
Paints and oils	106 74	
<i>Miscellaneous:</i>		415 23
Ice	3 50	
Officers' travelling expenses	423 06	
Pupils' travelling expenses	151 53	
Freight and duties	37 46	
Incidentals	290 08	
Salaries and wages		905 63
		11,987 97
		\$26,289 47

REPORT OF THE PRINCIPAL.

J. W. LANGMUIR, Esq.,

*H. M. Inspector of Asylums, Prisons and Public Charities,
For the Province of Ontario.*

SIR,—I have the honour to present for the official year ending September 30th, 1878. the Principal's Report of the Ontario Institution for the Education of the Blind. "Blind Asylum" still appears on the envelopes of letters arriving here, and our "patients" are still spoken of in quarters where better knowledge should prevail. My Annual Report therefore, had better set out with a definition. This Institution is a SCHOOL, LITERARY, MUSICAL AND TECHNICAL, FOR THE YOUTHFUL AND TEACHABLE BLIND. The inmates are pupils, *not* "patients." This confusion of ideas has given rise to serious misunderstandings; to disappointments of applicants, and to much useless correspondence. I believe that it has also prejudicially affected the Parliamentary appropriations, our educational work, which is the sole object of the place, being often confused with the mere care of the inmates. The distinction is quite obvious, and is now clearly apprehended even in England where the asylum system is still unfortunately applied to the case of the blind. In the *Encyclopædia Britannica* (9th Ed. *Art.* "Blind") the writer says: "The Institutions of America are not Asylums, but in the truest sense of the word educational establishments in which the blind, without regard to their future, receive a thorough education." Now it is surely strange that what is so clearly expressed abroad is not known at home; or, if known does not yield the appropriate fruits of knowledge, which may here be taken to mean the appropriations needed for fruitful work. Once more, the Institution is NOT an Asylum for aged or infirm blind; nor will it be found a Castle of

Indolence,—"a pleasant land of drowsy head," for any whose *sole* qualifications is blindness. Within its own wide bounds the Institution has tillage enough without trespassing on the doubtful demesne of charity. Much hopeful ground is still wilderness, but part is already good arable soil. This latter is fenced off into three fields, or departments as we call them:

Literary Department.

Under this head our general course of instruction comprises the *finger-reading* of various systems of relief-print; *writing* in the common characters used by the seeing, as well as writing in relief the characters specially devised for the blind; *Mental Arithmetic* and the use of arithmetical slates and types; *English Grammar and Analysis*; *Geography*, especially in its physical and topographical aspects; *History*, ancient and modern; *English Literature* with the particular study of our leading authors; *Physiology*, illustrated by models; *Object lessons* and *Kindergarten* instruction.

The literary training of the blind is a most extensive and a most difficult field of educational work, much of the soil being still unbroken or beset with weeds that are not *all* indigenous. To understand the present state of the soil we must learn something of the previous husbandry.

The systematic instruction of the blind—not alone literary, but also musical, and technical—is, by general consent, held to have begun in 1784 with the labours of Valentine Haüy, brother of the distinguished mineralogist. A poor waif, Francis Lesueur, blind since he was six weeks old, had strayed from Lyon to Paris, and one October day in 1784 while begging and shivering at a church gate, caught the tender hearted Haüy's notice. Haüy *bribed* this unsavoury lad to abandon a beggar's life on trial, devoted himself for six months to his culture and produced educational results so novel and marvellous, that by the aid of the "*Société Philanthropique*," he was enabled within two years to extend the instruction to 24 pupils. On the 26th December, 1786, he exhibited before the court at Versailles the attainments of these pupils in general literary subjects as well as in music. The tender heart of Louis XVI was fairly won when Haüy laid at the foot of the throne, as a souvenir of this memorable occasion, his now famous "*Essai sur l'Éducation des Aveugles*," set up, printed and bound by these blind children, describing the process of their instruction, and ending with a most pathetic appeal to the monarch as their father and protector. Henceforward the youthful blind of France became the wards of the State; and the Royal Institution at Paris became the prototype of all other schools for the blind. Haüy's brilliant success set France, England and presently all Christian Europe aflame with benevolent ardor towards this hitherto neglected class. English and Scottish Institutions sprang up having their roots in private charity—at Liverpool in 1791; at Edinburgh and Bristol in 1793; at London in 1799. Within the next 30 years six additional Institutions arose. On the continent as early as 1804, Dr. Klein became the Director of a famous blind school in Vienna; and two years later Haüy, by special invitation, founded State institutions at St. Petersburg and Berlin. This example was speedily followed by Dresden (1809), Copenhagen, (1811)—at first a private charity—and other European capitals.

The cause of the English-speaking blind has, to this hour, been most seriously retarded by the erroneous departure taken in the early British Institutions. These, unlike the Continental Schools, took no higher view of the emergency than to provide some kind of manual employment for the indigent adult blind. They wholly missed the real pith of Haüy's experiments, which conclusively showed—that we are now finding to be universally true of all labour—that successful blind industry must rest on a basis of general culture; and further, that, after skilful training, the youthful blind ought not to require continued residence in any special Institution. But, from the very outset, the British Institutions were avowedly asylums, or even alms houses, whereas the continental foundations were schools. This erroneous departure in Great Britain has confused the entire question, even in minds that understand the difference between the education of the young and the care of the infirm, and that the requirements of recruits at Aldershot differ materially from the requirements of pensioners at Chelsea.

Haüy's basis for his entire scheme was the creation of an embossed literature. Con-

tinuously since 1784, the blind youth of France have had a supply of relief-books representing a liberal course of culture. A printing press, worked by the blind themselves, has nearly always been busy within the Institution walls. The choice of type was, of course, the very first difficulty. Haüy adopted an italic character, which was subsequently modified by both himself and the succeeding director, Dr. Guillié, superseded by Roman type in the hands of the director, M. Dufau; and this in turn was supplanted by the arbitrary point character arranged by M. Braille, which still maintains its ground.

For fifty years after these advantages had been enjoyed in France, the English-speaking blind throughout the world remained illiterate. The Asylum at Edinburgh was one of the best, if not quite the best in Great Britain. Yet, in 1826, Mr. James Gall found—and he might have found for long years afterwards—the blind inmates there using cords and knots as a substitute for an alphabet. These string alphabets bore about the same relation to literary training as wampum belts bear to historical narrative, and both belong to the same stage of intellectual culture. Mr. Gall undertook, at his own private charge to lead the way to something better. On the 28th September, 1827, he published the earliest embossed book in the English language,—*A First Book for Teaching the Art of Reading to the Blind*. Mr. Gall used small Roman letters with angular outlines, but unfortunately, in his earlier imprints, excluded capitals. He succeeded in forming influential Committees in Edinburgh and Glasgow in 1828, and in 1829 and 1831 publicly exhibited in London the results obtained by blind children who had used his hooks. These exhibitions kindled a very remarkable outburst of energy throughout the entire English-speaking world. While the previous thirty years had established six Institutions in Great Britain, the next thirty added a score; and, in America, broke ground with the pioneer Institutions at Boston, New York, Philadelphia, Columbus, Staunton, and Louisville. This intense activity sometimes wandered away into mischievous channels, and created many of the pitfalls that still lie in the pathway of the blind. The conflict of alphabets was a special disaster in both its near and remote results. Gall's angular alphabet, which excluded capitals, took deep root in Boston, where Dr. Howe, after reducing its size and pruning off its useless lines, adopted it as the vehicle of his splendid series of publications. Under Dr. Howe's influence, the printing presses of the Staunton Institution and the American Bible Society, also adopted this lower case angular character. On Mr. Gall's Glasgow Committee was a Mr. Alston, who at first coincided in Mr. Gall's views, but afterwards became the foster-father of a type that in 1837 had obtained for Dr. Fry the special gold medal of the Edinburgh Society of Arts. This alphabet proceeded in precisely the opposite direction from Gall's, excluding lower case (*i.e.* small) letters and using nothing but Roman capitals. Mr. Alston's publications comprised the Scriptures, devotional works, and a few school books. Towards the printing of these, a subsidy of £400 was contributed by Her Majesty's Treasury. This Alston or Glasgow type found favour at the Philadelphia Institution, and became, through its printing press, the vehicle of a very valuable series of publications, including a large *English Dictionary* in three volumes. The further issue of books at Philadelphia was arrested by a mysterious theft of the entire font of type. Roman capitals are still exclusively employed in the publications of the Printing Society for the Blind (St. George's Fields, London), which number many thousands of volumes, and commend themselves by their low price.

By the year 1838, Mr. Gall had learned that in the excessively angular outlines of his letters, and in the absence of capitals, he had wandered unnecessarily from the ordinary alphabet used by the seeing, and had placed positive impediments in a blind reader's path. In his subsequent publications, therefore, he retraced his steps, but the false lead he had given seems even still to exercise a controlling influence over the Boston press. The divorce of the capital and the small letters came, about this time, to be generally condemned by the blind themselves. We find them reunited in the private publications of Mr. Littledale, a blind gentleman of Yorkshire, and in other similar cases. The Rev. W. Taylor, who was at first one of the most strenuous supporters of Alston's characters resorted to the combined type in the publications of the Worcester (England) Society for Providing Cheap Literature for the Blind, which was founded in 1868, and is still doing valuable work. The Paris Institution, under the Directorate of M. Dufau, restored the capitals and thus used a combined angular Roman type. In America, precisely the same conclusion has been reached, after trial of the two systems known on this continent as the Philadel-

phia (capital) and Boston (lower case) letters. Mr. N. B. Kneass, jr., of Philadelphia, who is himself blind, gave much attention to the sources of illegibility of embossed type. By his own experience, and that of other blind persons, he found that in the line (or ordinary) types—capital, as well as lower case—when a line becomes defaced, there is usually enough of the character of which it formed part, still legible to convey the idea of the whole. In this way the blind frequently mistake the following letters: Philadelphia print, B and S; F and P; H and N; K and X; Boston print,—a with g, or o; t, with f and l, and e, s, x, and z, with each other. Mr. Kneass proceeded to devise an “improved combined letter,” consisting “of a combination of improved capitals, whose ascending and descending lines are straight, with the Boston lower-case, improved in the distinctive features of some of its letters.” To avoid a violent transition from the Boston books which are still largely used in our blind schools, Mr. Kneass retained the angular outlines of the Boston type; but he states the remarkable fact—of course meaning in letters of the size he adopts, e.g., letters being three-sixteenths of an inch in vertical height—that the angular outline of letters is not generally distinguishable to the touch of blind readers from a circular outline, many such readers “not even knowing of its existence—proving it to be unnecessary, if not wholly objectionable.” At this stage one cannot help hazarding the reflection, how much brain-waste has been bestowed on this angularity of letter in Scotland, France and the United States, when it finally turned out that the blind had been for more than forty years reading angular letters without being able to distinguish them from circular. This strongly recalls the celebrated passage in *Le Bourgeois Gentilhomme*, where M. Jourdan discovers that he “has been talking prose for more than forty years, without knowing a thing about it!” The American Printing House for the Blind has generally used in its many valuable publications the type devised by Mr. Kneass; but finding that ambiguities still remained, it submitted certain experimental letters in printed form to the various Institutions; and after these sheets had been *practically tested and criticised in the school rooms*, it crystallized the results into a new fount of type. Letters frequently confounded have thus been drawn apart: e and s; f and t; h and n; also, more characteristic outlines were bestowed on a, o, d, r, v, m, w, x, u, and in still later publications on g. Had the practical common sense plan of the American Printing House been earlier adopted, and had the proposed improvements been tested in the school rooms, how many useless excursions into the wilderness might have been saved! We have now sufficiently emerged from this thicket to see various tracks converging. A general agreement has been almost reached that, for blind readers, the Roman letters, slightly modified, form the best of the line alphabets, and that capitals and small letters should both be used, as in ordinary print. This conclusion has been all but universally adopted in America. On this continent we hold, periodically, general conventions of Instructors of the Blind, each Institution being represented in triplicate by its Superintendent and by delegates chosen from among the trustees and teachers. The first of these Blind Parliaments met at New York in 1853; this was followed by conventions at Indianapolis (1871), Boston (1872), Batavia (1874), Philadelphia (1876), Columbus (1878). If any new system is proposed tending to overthrow established conclusions, it is the practice in these Parliaments, which are now held every two years, to summon the intruder to the bar, and he is there interrogated, often in no very gentle terms, if he should prove to be a mere *doctrinaire*. Under this sharp frosty criticism a good many showy biennial weeds shrivel up and do not seed down the soil to become pests in future years. On the other hand, any member offering the fruit of thoughtful experience, receives the warmest welcome and has the most patient attention. In this way, Mr. Kneass' alphabet was announced at Indianapolis, 1871. The New York point print struck root at the same time, and almost all other recent improvements have had their value promptly recognized by these conventions.

The combined type is thus admitted to be the best of the line alphabets: but just here a serious obstacle comes into view. This alphabet though easily legible to blind persons of delicate touch, is, like all other line alphabets, quite illegible to the hard-handed blind who, unfortunately, are rather numerous, including nearly all who follow basket-making or other mechanical work. Thus at a very early stage, ARBITRARY ALPHABETS in strong relief began to be devised. Of these the only important are the systems advocated by Lucas, Frere, Moon, Braille and Wait. The conflict of these alphabets has materially influenced the educational prospects of English-speaking blind throughout the world.

1. Mr. T. M. Lucas, of Bristol, in 1835, published a system of embossed short hand, based on Byron's stenography, and using the same elementary symbols, —the point, line, and circle in various positions and combinations. In this Lucasian dialect the Queen's English is most frightfully used. The first "general rule" of the system (even as revised by Gowring, 1847,) is "All letters not necessary to the sound are omitted, as *da* for *day*, *mit* for *might*! &c. This is alarming enough; but the second rule is more so: "When the sound of a word is decidedly different from the spelling, the *spelling is altered*, as *shurti* for *surely*." These rules rather lean over to the amiable mood of the elder Weller, who, when asked by the Court whether he spelled his name with *v* or *re*, replied, "That depends upon the taste and fancy of the speller, my lord!" Offices for the publication of Lucas' books having been opened in London as well as in Bristol, it was speedily found that words do not "sound" alike in Bristol and London, or even in different streets of London itself. Nay, even the same editor in the course of a single day, judging from the embossed transcript, seems for the same words to have taken the wildest excursions of "taste and fancy." Then large assortments of words are represented by the same contractions or by the same letters. A symbolical tadpole, head inverted, tail pendulous means, according as the context may require, *sic*, *sicth*, or *Pharisee*; the same tadpole prostrate, means *seven*, *seventh*, or *Charch*; and the tadpole supine, means *eight*, *eighth*, or *Nothing*! Yet to the printing or the teaching of this grotesque system seven Institutions or Societies in the United Kingdom have devoted themselves. Some of their pupils are now with us, having left England while quite youthful.

2. Two years after Mr. Lucas had launched his alphabet, Mr. James Hartley Frere, unfortunately bethought himself of another phouetic system based on Gurney's shorthand. Mr. Frere revived a most ancient expedient for enabling feeble readers to keep the place,—alternate reading from left to right, and from right to left. This device ("boustrophedon" writing) was well known at least 2,500 years ago, and appears in the famous Sigeon inscription among the Greek antiquities in the British Museum. Several years after Mr. Frere, Dr. Moon in his system resorted to the same expedient, but with this difference, that the latter's reversal of letters in the returning line amounts simply to a transposition of the ordinary characters, whereas Frere's reversal represents also the *negatives* of the ordinary letters used by him elsewhere. It is not easy to conjecture what ground of controversy could arise between these gentlemen or their adherents as to the originality of alternate reading,—a device that manifestly belongs to neither, though its revival is clearly due to Mr. Frere. Frere's system has in some quarters strenuous advocates, but, in spite of the British Institutions and Societies devoted to its teaching, it can scarcely survive the present generation. What permanency could have been anticipated for a system built on a puerile MEMORIA TECHNICA of which the following is not an unfair illustration: Symbol for *ch*: "An angle the points forwards, the straight line downwards the same as a half circle the points forwards the dot downwards is *chch*—*chch* is changed "from a crescent by a dot on its lower limb—*atch*, *etch*, *itch*, *otch*, *utch*." A visitation of such irritating quality may well render any learner restive! When we turn over poor Frere's books they vehemently suggest a collection of Runic inscriptions. The famous and mysterious "spectacle ornaments" abound everywhere; and the meaning is often *reasonably* hard to get at. Ambiguities and contractions are quite the rule. These sins of omission are recorded in twelve tables. The dodecalogue ends with this cheery couplet:

"Rule 12.—Where'er the proper rule don't give you satisfaction,
On trial you will find the word is a contraction."

It is to be feared that some of these worthy inventors for the blind have not had sufficiently before them the malediction pronounced of old against him "who maketh the blind to wander out of the way." Yet it would be difficult to name two men more unreservedly devoted to the cause of the blind than Lucas and Frere. Their excessive enthusiasm for their rival systems led them into an undignified Battle of wits: Books, almost as bitter as Dean Swift's, but in which *both* parties claimed to champion equity. This contest engendered a wonderful amount of bad blood, did immense injury to the cause they both had so much at heart, and threatened Mr. Lucas' life.

3. In 1847, Dr. Moon, who is himself sightless, introduced in an experimental form a new

alphabet in which each letter is formed of two lines only and which the inventor, rather favourably, describes as resembling the letters commonly used by the seeing. Dr. Moon's alphabet exhibits not only ingenuity but intrinsic merit, and in spite of its great expense as well as expanse, it has won its way into nearly forty British Institutions or Societies. Frere's device of stereotyping by means of wire letters soldered on tinned-plates has been put to great practical use by Dr. Moon, whose relief printing is usually very bold, though the paper is rather soft and spongy for finger reading. He has succeeded in rallying around him benevolent associations; and one munificent patron, Sir Charles Lowther, is said to have at various times contributed over \$100,000 to the Moon printing-house. The total number of books large and small, issued, exceeds 80,000, consisting chiefly of the Scriptures in English, Continental, and Oriental languages, devotional works, and school books. We have some of these books in our library, and we could readily employ many more.

4, and 5. The point alphabets known as the *French* and *New-York*, have a justification that none of the three preceding arbitrary alphabets can show—the blind can not only read them but they can also write them, and read the point manuscript of other blind writers. The French point-print appears to have been devised by Mr. Chas. Barbier, of Laserre, an officer of artillery, and (about 1834) to have been somewhat improved by M. Braille from whom it generally takes its name. As a medium of Institution printing at Paris it came in with the second Empire, and it has retained its foothold ever since. In 1863, it seems to have struck root in the United States, (first at the St. Louis Institution) through the exertions of Mr. Robyn who became the apostle of the system and expounded it at Louisville and other Institutions, visiting them for that purpose. Boston is now almost alone in preferring this point alphabet to the New-York system. In his report for 1871, Mr. Wm. Wait, superintendent of the New York Institution, published the system that generally goes by his name, though, I believe, Dr. Russ, a former superintendent of that institution, claims the invention as his. No matter who the inventor, Mr. Wait is clearly entitled to the credit of usefully applying the system and fashioning it into a generally available and powerful instrument of knowledge. For my part, I confess, I am more interested in George Stephenson's locomotive than in the steam whirligig of Hero the Alexandrian. It is to my mind extremely disingenuous, after Mr. Wait has had to bear the whole stress of criticism for seven years, and has, during that period, been the recognized lawgiver of the system, to now raise mere antiquarian questions. In my report for 1875 I compared in detail the Wait and Braille point alphabets. Only the result need here be stated, that Mr. Wait's alphabet is now generally admitted to possess the following points of superiority. (1) The letters of most frequent occurrence are represented by the fewest points; (2) In consequence of the points being only *two* deep (instead of three, as in the French alphabet) the reader's finger requires for their recognition, a simple horizontal movement instead of a horizontal *and* a vertical movement; (3) The area required for the expression of a given quantity of "copy" is materially less than in the Braille system. The New York point is now being employed with us for nearly every class of instruction and more than 100 pupils have a greater or less mastery of it. Nearly 130 pupils can read the line-type books of the principal publishers; there are 37 readers of Dr. Moon's type; and a few children recently from England can read Lucas' publications.

Scattered over the various alphabets that have been enumerated, a very large number of volumes have appeared in the aggregate. But a great reduction from this total must be made for the numerous cases where the Bible and other religious books of large circulation have appeared in merely different forms or different types, and a vast deduction must be made for those books that have passed out of print. The embossed books now current and procurable are pitifully few: consisting, in America, of the stereotyped publications of the Boston Institution and of a few other Institutions; of Mr. Kneass' books; of the Bible Society's embossed reprints; and most especially of the publications of the American Printing House for the Blind. The printing of relief-books is rather hazardous work, owing to the great cost and very limited command. Capital has not here the slightest hope of a profitable investment, and the work is thus necessarily thrown back upon Institutions and Benevolent Associations. If State intervention is ever demanded for educational purposes it is surely justifiable here. In the United States, as

early as 1836, I find that the proposal to ask a Congressional subsidy was seriously discussed. On May 12th, 1846, a bill having this object reached its second reading, but, owing to the outbreak of the Mexican war, its further consideration was deferred. In 1853 the New York Convention discussed the general question, and took measures for the presentation of a memorial, asking the appropriation of public land. In 1858 the Kentucky Legislature incorporated the American Printing House for the Blind, an event of supreme importance to all our blind folk! As stated in the Charter, the design of the corporation is to sell at actual cost, for the instruction of the blind, embossed books and tangible apparatus. The State of Kentucky provided the nucleus of a revenue by a permanent grant of "\$5 annually for every blind person in the State of Kentucky, according to the census of the United States." It was expected that all the States of the Union would co-operate by passing similar enactments, and Louisiana, Mississippi, Tennessee, New Jersey, and Delaware did make such appropriations. The outbreak of the Civil War threw the whole project into confusion; only small instalments of the appropriations were paid over by the first three States; and the building designed for the Printing House was seized and converted into a military hospital. When at last the Trustees got actually to work, the printing press was defective. Then the alphabet-mongers raised their familiar street cries. The corporation resolutely put down all obstructionists, and having perfected their processes threw off a series of books that won immediate confidence. In May, 1871, the Printing House was strengthened by the adherence of the "National Association for publishing Literary and Musical books for the Blind," Philadelphia. This wise step was directed by Mr. Chapin, whose long and valuable services in the cause of the blind give deservedly great weight to his opinion. At the Convention held at Indianapolis in August of the same year the Printing House was cordially approved of. Just before this crisis a blind swindler of conspicuously bad antecedents had the effrontery to give himself out as the representative of the Printing house, and indeed of all the American Institutions for the Blind. Appropriating the action of the New York Convention of 1853, he had appeared at Washington with a scheme for endowing a University and Printing House for the Blind. His plans were so craftily laid, extending over ten years previously, that he had gathered very considerable support, and, but for a timely exposure of his character, would certainly have carried his bill through Congress. Among much other useful work, the Indianapolis Convention published this adventurer as one of the Falstaff series,—*"an impudent embossed rascal."* At the Philadelphia Convention of 1876, a committee was appointed to urge upon Congress the question of a National subsidy to the Printing House. This committee did its work well, and at the Convention held last August at Columbus, the cheering announcement was made that, on the 16th June, *a bill for \$250,000 had passed the House of Representatives* by a vote of 120 to 20; also that it was expected to receive the approval of the Senate at its next Session. The Honourable Albert S. Willis was named as being especially entitled to the thanks of the blind for his strenuous exertions in behalf of the measure. The capital sum of \$250,000 is, in the bill, directed to be held in trust by the Secretary of the Treasury of the United States, and to be by him invested in 4 per cent. bonds, so as to yield an annual revenue of \$10,000. This endowment is to be exclusively applied by the Trustees of the American Printing House to the manufacturing and furnishing embossed books for the blind, and tangible apparatus for their instruction. There are numerous safeguards for the proper expenditure of the money; but the best safeguard of all consists in the honourable record that the American Printing House has uniformly maintained in the past. The Trustees and the Superintendent, Mr. Huntoon, enjoy the entire confidence of American Institutions for the Blind. Of the seven trustees named in the Charter, two, the Hon. W. F. Bullock and Dr. T. S. Bell, are still serving zealously after twenty years of gratuitous and sometimes very thankless work; while the vacancies that have occurred have been carefully filled with gentlemen of the very highest character and standing. The Trustees have been specially fortunate in their choice of Superintendent, who is also the efficient director of the Kentucky Institution for the Blind. During this summer I have had the pleasure of visiting the American Printing House for the Blind, and seeing Mr. Huntoon at work. His inventions and approved appliances are quite numerous, and some of them are vastly important. One of the most signal services that Mr. Huntoon has rendered is a new process of stereotyping, by which, at a single stroke, he has reduced the stereotype

bill from fifty to ten cents per large quarto page. The whole process, as I witnessed it, is as follows:—The embossing type having been properly set up, and secured on the bed of the printing press, a sharp relievè-impression is taken in soft paper-board. This paper matrix is clamped in an iron book that its author, Mr. Huntoon, has devised, having large apertures and slides in the leaves, like a photograph album. Withdrawn one of the slides, an interval is left in front of the relief-surface of the paper matrix, and this is filled with molten type metal. When the plate has cooled and formed a rigid bed for the matrix, a slide is withdrawn *behind* the matrix, so as to expose its depressed surface and type-metal is poured into the space, filling up also of course the *intaglio* letters. This latter plate forms a type-metal stereotype; the other plate, procured as above, has served its temporary purpose of sustaining the paper-board, and is at once returned to the melting pot. The number of impressions immediately required are struck off this stereotype, and the embossing type, which is very expensive and easily injured, becomes at once available for composing another page. These heavy stereotype plates are, however, very costly and cumbersome. Mr. Huntoon does not retain such plates for permanent use, but makes light copies by a novel and ingenious process. He takes a sheet of brass almost as thin as the paper on which I write, but specially annealed and toughened for his work; on this brass paper he prints a relief impression of the page desired, fills up the depressions at the back with two coats of water-lime, rubs down to a true plane surface and binds the mass by pasting on the back a sheet of paper. The first type-metal stereotype is now returned to the melting-pot, and so the circle recommences. This, and all Mr. Huntoon's other improvements, are patented for the purpose of securing the Printing House in their undisputed possession; but they are generously placed at the service of all who may publish for the blind. At the time of my visit, the sheets of Professor Tyndall's *Notes on Electricity* were being stereotyped, and in an adjoining room, Agassiz & Gould's well-known *Manual of Zoology* was in the compositors' hands.

Mr. Huntoon, in his publications, gives its adequate importance to that "modern knowledge" which is revolutionizing not merely our modes of life, but even our modes of thought. Various departments of Natural Philosophy are found to be quite accessible to blind students; and, under favourable conditions, there is scarcely one in which they may not attain excellence. As an extreme illustration, may be mentioned Sir Isaac Newton's friend, Nicholas Saunderson, blind from eight years, but unusually well versed in classics, and especially eminent in mathematics. To him Newton committed the exposition of the Newtonian Philosophy, and by Newton's personal influence he was appointed Lucasian Professor of Mathematics at Cambridge, Newton's own former chair. Saunderson's inaugural address was delivered in faultless Ciceronian Latin. His lectures successfully expounded not merely the *Principia* and the *Aritmetica Universalis*, but even the *Optics*. Surely a strange subject for a blind lecturer; but never were lectures on optics so numerous attended or more profitably. Sir Isaac Newton will be admitted to be a supremely good judge of the exposition demanded by his own discoveries, and his opinion of Saunderson ought to make us very cautious in debarring blind youth from any branches of instruction.

Acoustics is a subject that might be taught the blind with evident advantage as supplying a scientific foundation for musical culture. Mr. Huntoon has very thoughtfully supplied us with an admirable text-book in an embossed reprint of Blaserna's *Theory of Sound in relation to Music*. This might very profitably be made the subject of class study, and be illustrated by the tuning fork, the siren, and the sonometer, which are within the easy comprehension of average blind pupils. The tuning fork and the sonometer are indispensable, if we would give them any correct idea of vibrations, and of the manner in which the vibrating strings of musical instruments are influenced by changes of length, tension, thickness, &c. The application of such knowledge to piano-tuning, the playing of the violin, and to other departments of music is sufficiently obvious.

It is in such paths, having the most direct and practical influence on their future avocations, that I would propose to lead the education of more intelligent blind youth. I am aware that in some American Institutions, as at Boston, the study of languages has been tried and in some cases with most gratifying success. I have met with ex-pupils of the Boston and Philadelphia Institutions who had attended Harvard, or the University of Pennsylvania, as the case may be, and they certainly were refined and cultured gentlemen.

kind foresight in providing this year a similar plan.

the class-rooms would have been arrested. Permit me to furnish comparative prices of books. A seeing boy can buy of the American Bible Society a well bound and clearly printed Bible for twenty-five cents; but, if his blind brother desires to study the Scriptures, the embossed transcript will cost him in its very cheapest and most clumsy form, nearly as many dollars as his seeing brother paid cents. It was rightly said that Dr. Howe was a great benefactor of the blind, when, improving the quality, he reduced the price of embossed books to a small fraction of the price in Great Britain. Now Mr. Huntton has recently stepped in, and, by his cunning inventions, caused an enormous "shrinkage of values" in Dr. Howe's book-work. The Printing House publications are sold for the bare cost of production; yet Brooke's shilling Primer of English Literature rises, with even Mr. Huntton's cheap embossing, to \$3.50 per copy. Our books being thus from 14 to 100 times as expensive as those used by the seeing, and maps and other educational appliances being in the like ratio, it is easy to infer how inadequately \$400 will supply 150 blind children with "books, maps, apparatus, appliances and school stationery," and their teachers with the necessary books of reference.

Improved Appliances for Literary Instruction.

The last year has been fruitful in improvements, or suggested improvements. Some of them have come from very unexpected quarters. Mr. T. A. Edison, whose transformations of forces have made the Tales of the Genii shrivel into mere contempt, and have made Menlo Park far outshine the Gardens of Bagdad—has not forgotten the blind in his marvellous inventions. His *Phonograph*, even in its proposed ordinary form, would have an immediate application to our work. In this form, Mr. Edison himself describes the recording surface as "a flat plate or disk with a spiral groove on the face, operated by clock-work underneath the plate. The grooves are cut very closely together, so as to give a great total length to each inch of surface. A close calculation gives, as the capacity of each sheet of foil upon which the record is had, in the neighbourhood of 40,000 words." That is, Mr. Edison promises to furnish, say, one of Dickens' novels on a piece of foil, in area equivalent to ten inches square. A scale of chapters and pages would be indented on the margins of the foil, so that the reading may commence at any desired page or chapter. The cost of the instrument is expected to be \$100, and the price of a volume of Dickens twenty-five cents! How great a boon would it prove to the blind to have thus read to them automatically, but with the best elocutionary effect, the finest efforts of our best writers! The blind listener could choose his author, select his favourite passages, start or stop the clock-work of the phonograph, and so commence or end the reading. How much would it have added to the charm of Dickens' works if this mechanism had been perfected before his death, and if we could now recover his sympathetic voice and his merry laughter! For the effective use of this instrument the assistance of the same inventor's *auriphone* may not improbably be required. By this contrivance, Mr. Edison tells us, "A maiden's sigh can be given in the magnitude of an earthquake."

Specially for the use of the blind, Mr. Edison has announced a writing ink which, as it dries, leaves an embossed surface. Tangible inks have been frequently tried, but they have been abandoned as unsatisfactory. Mr. Edison's proposed ink apparently *blisters* the paper into a relief surface; and I should fear that a preparation acting so energetically on paper fibre may not nicely discriminate between writing material and the blind writer's fingers.

For ordinary writing, intended to be read by the seeing, the blind generally use a lead pencil with a grooved card made of heavy "board," or preferably, as I suggested in a former Report, of vulcanized rubber, such as engineers use for steam packing. More than 120 of our pupils obtain instruction or practice in this pencil writing.

The Type-writer still gains in estimation with Superintendents, especially those who are blind. An improved machine was exhibited at the Columbus Convention by the Remington Manufacturing Co., who control the patent. Mr. Churchman, of Indianapolis, showed an ingenious contrivance of his own for enabling a blind operator to readily find the keys of the Type-writer. It consists of an oblong frame, so divided by wire lines as, when placed on the key-board, to classify the keys into easily-remembered groups. The contact of a wire fence of course warns the blind operator when he is wandering too far

afraid. The excessive cost of the Type-writer is fatal to its ordinary use by the blind. Even if fifty machines were taken by the Convention, the lowest price that would be accepted was \$90 each. The velocity of seeing persons "writing" with this instrument appears to have been exaggerated. I timed the seeing agent's own writing, and found that he made only forty words per minute. I have no difficulty myself in slightly exceeding this rate with pencil and paper. Of course, *blind* writers gain immensely in speed and *in distinctness* by using the Type-writer for correspondence. Mr. Morrison Heady, of Elk Creek, Kentucky, has for some time been engaged on a substitute for the Type-writer, which is to print either line type or point characters, as the operator may prefer. The price is not to exceed \$30, and the machines are to be delivered in a few months. Mr. Heady is a remarkable example of what a blind person can accomplish under the greatest difficulties. He is not only blind but absolutely deaf, and conversation is conducted with him by spelling out words and sentences with the finger applied to embossed letters on his glove. Yet Mr. Heady is well educated, and he is a most skilful mechanic besides. Many years ago he became fired with the ambition to bring Milton's *Paradise Lost* within the reach of blind readers. For this purpose he collected \$500 throughout his native State, and committed the printing to Dr. Howe, who generously supplemented his little fund, and printed in 1856, on the Boston press, not only a large edition of *Paradise Lost*, but added a second volume, including nearly all of Milton's remaining poetical works. Mr. Heady's edition has been long out of type, but Mr. Anagnos, Dr. Howe's successor, promises us a re-issue.

Correct Spelling is a somewhat difficult attainment among the blind. Their memories are excellent; but spelling is an exercise of the eye much more than the memory, as any one can satisfy himself by writing a few sentences in the dark. Mr. Huntoon has prepared a very useful "spelling-frame," which seems to be a revival of a 16th century expedient to teaching the blind reading by combining isolated letters. With the spelling frame are used bits of card board bearing embossed letters. These are picked out by the blind pupil, and arranged in proper succession in grooves prepared for them. This is a pleasant exercise in word-building, and especially valuable where the pupils are not only blind, but also deaf, or, worse still, deaf and dumb.

In Point Print Appliances there is still room for improvement. As indicated above, we use the New York system of point characters. A small experimental class was first undertaken by Miss Tyrrell, but the results, from the very outset, were so satisfactory that I felt confidence in extending this novelty into the work of all our classes, and we now regard the New York Point as an indispensable implement. All systems of point are at present written by puncturing the paper, the reading being thus the reverse of the writing. This adds much to the difficulty of instruction, and in mathematical work it is an especial obstacle, as the paper has to be taken out of the guide, turned over, read by the finger, replaced in the guide, and the results so far reached carried forward. The great desideratum is a guide and stylus that will give an *embossed* instead of an *intaglio* expression. The reading and writing will then be in the same order, and the disengagement of the unfinished paper will then be unnecessary. As mentioned in a former Report, I have contrived such a guide and stylus in rough model, which I think contains the germ of something practical. I hope shortly to perfect these appliances.

Geography.—The earliest physical maps of precision were constructed for the use of the blind. They were devised by Herr Zeune, the first director of Hail's foundation at Berlin. In Zeune's maps equal increments of elevation were represented by successive equal strata superimposed. Mr. Huntoon has very happily applied this method of construction to physical maps of the United States. As the basis of his work he has taken the recent exact survey by Mr. Henry Gannet, represented in what is termed "The Hypsometric Map of the United States," published by the Department of the Interior, Washington. For every additional elevation of 1,000 feet as shown on this map, Mr. Huntoon adds another stratum of veneer, using alternately dark and light woods. This yields a stratified map of great delicacy and beauty, especially where such lofty escarpments occur as those of the Rocky Mountain Range. Mr. Huntoon has also devoted several years to a splendid series of physical maps carved in wood by his own hand, and showing in dissected form the anatomy of Europe, Asia, North America and the United States. Such carved models are necessarily too expensive for school use. A matrix in brass is therefore cast

from the model, and impressions of the matrix taken in a composition resembling bone. (Probably a lighter and much tougher composition might be obtained from paper pulp in some of its combinations.) The manufacture and sale of copies have been given to Messrs. J. P. Morton & Co., Louisville, the size ranging from 16 to 20 sq. ft.; and the price from \$50 to \$60. The study of accurate relief maps is to a blind youth of the greatest value and interest. The minute topography of his own Province is of course a necessity, if he is ever securely to travel from one point to another. But when his whole subsequent life is nourished on the intellectual stores that he may gather at the Institution, it would be cruel to debar this poor blind gleaner from the fields farther off. Thoughtfully passing his fingers over historic ground, he cannot fail to harvest many wheaten ears of knowledge. He will often seek to work out the problem how far the history has been evolved from the mere conformation of the soil. He will remark how naturally this rocky ridge has yielded a brawny, aggressive race; how this river has become a great artery of commerce; how this crossing of many natural highways has become a nervous centre for human energy.

In another class of maps, Mr. Anagnos showed at Columbus some clever bits of dissected work. His mode of construction employs three thicknesses of wood—cherry and walnut alternate—crossing grain, and strengthened by interposed layers of cotton. The mountains are represented, as in our own Institution maps, by conical brass nails. The selling price of such maps is: 30 by 36 inches, \$25; 42 by 52 inches, \$38.

To the blind the great value of *object lessons* and *Kindergarten* instruction is now specially recognized; and with some exceptions, the Kindergarten materials suitable for seeing children, are applicable to the training of the blind. Toys of any kind are valuable. To seeing children toys may be mere amusement; to blind children they are indispensable as sources of instruction, both manual and mental. Young children, therefore, coming to this Institution *ought to be accompanied by their playthings*; and while these children are at home, their friends should see that, as far as possible, they join in the pastimes of seeing children. A sightless youth's conceptions of the outer world are very apt to be to the last degree erroneous. Unless from a very early age his training has been specially planned to correct these impressions, he grows up in a fantastic world of his own and resents every correction as an attempt to mislead him. Such an ill-trained youth is very prone to be suspicious and wrong-headed. Out of his mental chaos he has created for himself a fantastic world, with grotesque structures on every hand. His teacher kindly but remorselessly pulls down these "castles in the air;" and it takes him some time to recover from the rude shock. He is apt to be ungrateful for kindness that appears so pitiless. Haüy was repaid with conspicuous ingratitude by the blind waif, whom, having snatched from the gutter of Paris, he fed, seoured, clothed, educated and provided for. If, as often sadly happens, the blind child has thus in earlier years been quite uncared for, and is in the sorrowful case of Topsy, who "*spect she growed*," the training is very difficult and very trying to the patience of the kindest teacher. We teach him to write. Very likely, the first use our amiable pupil will make of his accomplishment will be to write to some select cory, and impeach us of high crimes and misdemeanours. We obviously are all in a plot against his crown and dignity, we fairly have impoverished his revenues, very likely embezzled them. Now, this is very sad and very trying; but it makes out no better case against teaching the blind than the argument in Sam Slick the Clockmaker, where it is gravely inferred that seeing boys ought not to be taught writing, because a certain percentage of them are sure to commit forgery! So far from shewing that the blind are not to be educated, it shows that they *must* be educated and that we must begin much earlier with them. After all, is it remarkable that the sightless boy should widely differ in disposition from his seeing brother? Under the depressing effect of blindness, his physique is visibly less robust. His mental process is the precise inversion of theirs. They ordinarily reason from the objective to the subjective; their blind brother, if not carefully trained, is sure to invert the process, and under a subjective treatment of every question, he will live in an inverted world; or if he sees partial truths, he will "see men as trees walking." If we are ailing, do we not become unreasonably dejected and distrustful; do we not think ourselves coldly received by our fondest friends? Let us, therefore be more patient and more considerate to these afflicted ones.

Musical Department.

The great value of music to the blind is now so well established by the experience of older institutions as to need but little enforcement. Not only as a frequent means of livelihood, but as an unspeakable solace through their life-long affliction, musical education ought to be placed within easy reach of the blind. At Boston, where this subject is taught with remarkable success, it is the practice to give four-fifths or more of the pupils instrumental training. This liberal policy was inaugurated by Dr. Howe, whose far-reaching views were sustained by an unusually able Board of Trustees, including such distinguished men as W. H. Prescott, the historian, Horace Mann, the Massachusetts educationist, and Charles Sumner, the eloquent philanthropist. The same enlightened policy is still pursued by the Institution authorities. In his report for 1877, the Director, Mr. Anagnos, informs us that there were then 110 pupils in actual attendance, and that, of these, 88 received lessons in instrumental music. During the year the Boston Institution was visited by the New York State Board of Charities, and here is the enumeration of the musical staff as they found it: 1 Principal teacher of music (resident); 4 music teachers (resident); 1 assistant music teacher (resident); 3 music readers, one of them non-resident; 3 non-resident professors, paid by the hour, one of them \$1 per hour; 1 manager of tuning department (resident), total 13. The apparatus of instruction at the last report consisted of forty-two pianos, including one concert grand, all of Chickering's finest make; a large and costly pipe organ by Hook & Hastings, and a multitude of minor instruments and appliances.

This wise liberality is not by any means confined to the musical department in the Boston Institution, or to the Boston Institution in the United States. The New York Institution has for years given its blind pupils, at great expense, the instruction of such eminent musicians as Mr. Theodore Thomas, while its apparatus of instruction is the very finest that New York can supply. Indeed, generally throughout the United States, one witnesses the same munificent provision for the blind. This summer, Mr. Superintendent Smead, of the Ohio Institution, most hospitably entertained our Convention at Columbus, and we had the pleasure of examining what is structurally the largest Institution for the Blind in the world. This magnificent pile was recently erected at a cost of nearly half a million of dollars. Its music hall is already furnished with a large church organ and a fine concert grand piano. Its general musical equipment is being also satisfactorily worked up. Among its class-room apparatus I observed a *sonometer*, showing that the theory of music is receiving scientific illustration. The Trustees of this institution have evidently made up their minds that their Institution is not going to be distanced in the race.

For the practical result of all this philanthropic enterprise, we have simply to compare the drowsy blind paupers of Great Britain with the cultivated blind workers of America. Our standard English Encyclopædia fairly states the case: "The blind in the United States are socially far above those of any other country; large numbers of them become eminent scholars and musicians, and even their blind workmen enjoy a degree of comfort unknown in England or on the continent (Encyclopædia Britannica, 9th Ed. Art. *Blind*).

In the same liberal spirit, and indeed as an offshoot of the Boston Institution, the Normal College was established at Upper Norwood, near London, England. Its enlarged buildings were opened by H.R.H. the Princess Louise, whose active interest in that Institution constitutes a most auspicious omen for the blind of Canada, and encourages us to hope that the kind interest shown in our Institution by the Earl of Dufferin will be maintained by his Excellency's successor the Marquis of Lorne and by his Royal wife. The Upper Norwood College has, according to its last report, an actual attendance of 82. Thirteen teachers were assigned to the musical department alone, including some of the most distinguished that even the neighbouring metropolis can supply. The instrumental equipment of the college at my recent visit included a large church organ, two smaller pipe organs, thirty pianos and some cabinet organs and minor instruments. Principal Campbell, whose management of this novel enterprise in England has been most brilliant and successful, expressed his regret because he had not sufficient pianos to properly handle his work.

If now we return to our own Institution, I confess to discouragement at the equipment provided for our pupils. At the last Report, though the attendance of pupils at Boston was one-half *less* than ours, the appropriation for its ordinary expense was one-half *more* than ours. The staff of music teachers alone far out-number the teachers in our literary, musical, and industrial departments, all put together. It has 42 pianos to our 5; it has a church organ and all other instrumental aids for the teaching of the highest sacred music, of which, it is humiliating to say, the Ontario Institution has none whatever.

Some changes in our musical staff have occurred during the past year. The instruction of our senior pupils in instrumental music has recently been placed in the hands of Miss Mahony, whose commencement gives an assurance of efficiency and success. Miss Nolan, the well-known vocalist, has charge of our singing. The effects of Miss Nolan's careful voice-culture are already conspicuous in her pupils. Their progress is most gratifying.

As mentioned in my last Report, an experimental class in Wait's musical point print was formed, under Miss Alexander's instruction. The experiment proved entirely successful, and henceforward musical point print will form the basis of our instrumental teaching. I regret that Miss Alexander's health has become impaired from over application, and that she has found it necessary to take a few months' rest. The merits of Wait's notation, as compared with Braille's, were thoroughly discussed in convention at Columbus; and I should suppose the question to be now finally settled. In fact the discussion mainly arose out of a clever essay by Mr. J. W. Smith, of Boston, who proposed an elaborate re-arrangement of the Braille system, in which Mr. Smith admits that defects have developed—defects so serious that the revision of the entire system has become a pressing question in Ireland, and on the Continent of Europe.

The instruction of our pupils in tangible music is now conducted by Miss Foster, and a point transcript of Richardson's well-known "*Method*" is worked out in daily class exercises. The corrected papers are revised by the teacher, varnished, and bound into volumes, so that each pupil will presently own a portfolio of music extremely valuable for either systematic practice or instruction.

Mr. Raymond has been given charge of our piano-tuning, and the work and teaching are both thoroughly done.

His Excellency the Earl of Dufferin's bronze medal was this year awarded to Sandford Leppard, whose studies were divided between the Literary and Musical Departments.

Industrial Department—Boys.

In the willow-work a year of activity is to be recorded. The influx of pupils into the shop has been so great that I have been compelled to open a large department on the second floor of the workshop building. Here Mr. Truss has collected the senior pupils, the juniors remaining in the lower shop. Our willow crop suffered severely from the spring frosts, and will be much less productive than usual. As it is impossible for either man or horses to work advantageously the marsh willow-beds, I have formed on arable ground a new plantation of more than an acre, which will be cultivated like any other crop, and will presently yield a large return. The demand for our basket-work has been very brisk, but, as our main purpose is instruction, I consider it unwise to detain pupils any longer on a given class of baskets than is sufficient for practice; we have thus sometimes to refuse orders.

In cane seat work, owing to depression of trade, there has been no activity, and our classes are at present suspended.

During the summer vacation, the experiment was tried of gratuitously furnishing advanced shop-pupils with chair cane and prepared willows, to be worked up by themselves at their homes, and sold for their own benefit. These boys, as a rule, quite exceeded my expectations, and they spent their earnings in clothing themselves, or in assisting home-folk. Such valuable lessons in self-help ought to be annually repeated, as preparing our boys for that near day when they will finally leave us and strike out for themselves. Very gratifying accounts continue to be received from ex-pupils, though we could have wished some of them to have been better grounded in their trade before they set up in business.

His Excellency the Earl of Dufferin's silver medal was this year awarded to one of Mr. Truss' senior pupils—James Baxter, of Dromore, Co. Grey.

Industrial Department—Girls.

Under Miss Tyrrell's skilful management, this Department continues to grow with wonderful vigour. For more systematic organization, I have assigned to Miss Tyrrell two industrial assistants,—one having special charge of the knitting-room, the other of the general work-room and of the sewing machines. The number of girls under training is very large, but the instruction proceeds with the steadiness and accuracy of clockwork. The equipment of the knitting-room is, Lamb Knitters 2, Franz & Pope 1, Dana Bickford 4. Our experience continues most favourable to the Franz & Pope Knitting Machine. The great lack in the work of all these machines is the absence of a true rib. To supply this defect some new machines have been announced. (1) The Tuttle Knitter, manufactured by the Lamb Knitting Machine Co., is a circular machine furnished with an interior inverted cone. By a transfer of needles between this cone and the enclosing cylinder the rib is formed. (2) A Canadian patent has just been taken out by Mr. John Blacklock, of Hastings, Ont., for an account of which I am indebted to the courtesy of Messrs. Ridout, Aird & Co., Patent Agents, Toronto. In this machine an upright cone is used but without change of place, and therefore unlike the Tuttle cone which is lowered into the cylinder as rib work is required. Several points of superiority are claimed for this Blacklock machine: *e.g.* it makes a welt at the top of a sock; it forms stripes in colours lengthwise; and when a rib is required the needles can be transferred between cone and cylinder without disengagement from the yarn. Under your kind arrangement, Sir, our knitting machines are kept fully employed on work for the Central Prison and other Government Institutions. The product of our knitting-room during the past year amounted to about 3,000 pairs of socks, besides a large quantity of mitts and other knitted goods. The machinery outfit of the sewing room is as follows: Wheeler & Wilson Sewing Machines 7; New York Singer 1; Domestic 1. Our experience is decidedly in favour of the Wheeler & Wilson machine known as the new No. 8, straight needle. As an extreme illustration of its availability for blind operatives I have had its use taught to a poor fellow who, by a premature powder-blast, lost his left arm at the shoulder, both his eyes, and his sense of hearing. He previously learned in our class-rooms to read, to write, and to make bead baskets; and now he is able to thread his Wheeler & Wilson and run a very fair seam. Two of our girls who are quite sightless attended the late Provincial Exhibition in Toronto, and attracted large crowds by their wonderful execution on the Wheeler & Wilson Sewing Machine. Their exhibit included the neatest of plain sewing, also the skilful use of the hemmer, tucker, and gatherer. A more extensive exhibition of our industries was given at the Southern Fair lately held in Brantford, where the pupils were to be seen working at their various handicrafts. Besides maintaining the long list of decorative industries given in my last Report, Miss Tyrrell has broken fresh ground in more homely but most useful accomplishments. All the worn hosiery of the pupils is now darned by the blind girls, who also do the entire house-sewing and when this source of employment fails, obtain practice on private sewing. But a more signal advance still has been made. All dresses, and other girls' clothing required in the Institution are now cut out and made up by these blind seamstresses. In the first stages of this industry, we were much indebted for card-board patterns kindly supplied by Mrs. Huntoon, of Louisville, Ky.

Religious Instruction.

Divine service for Protestant pupils is held every Sunday afternoon in the music hall, the Brantford clergy of Protestant denominations officiating in turns. The instruction of our Catholic pupils is superintended by the Rev. Father Bardou, and conducted by the Sisterhood of St. Joseph, who attend every Sunday and give lessons in the Catholic Catechism lately embossed by the American Printing House.

We are under continued obligation to Mr. S. M. Thompson for the interest that he has uniformly taken in the entertainment and the welfare of the pupils. With his thoughtful kindness, he lately brought up the eminent vocalist Mr. Hamilton Corbett,

and our pupils were much delighted by a rich feast of Scottish minstrelsy. Mr. Cox, of Brantford, has also very kindly interested himself in our pupils. Miss Shenstone has again during the past summer afforded a refuge to a homeless blind orphan in the girls' home which is maintained by Messrs. Shenstone and Cockshutt.

Medical Department.

The remarkable health enjoyed by our blind village, greatly overcrowded though it is, is sufficient evidence how well we are cared for by our excellent Physician Dr. Corson. The increase of work, both general and special, in this department has been very great. At his daily visits, besides treating general ailments, the Physician passes in review, a large number of ophthalmic affections which demand long-continued and skilful treatment. Both the pupils and their friends are often greatly delighted by the improvement that cases at all tractable show under Institution treatment.

Visitation of the Blind.

The visitation of the blind was during the summer vacation prosecuted with much diligence by Mr. Truss and Mr. Wickens. To Mr. Truss I assigned the counties intersected by the Northern Railway, also certain unvisited tracts on the western peninsula, while Mr. Wickens resumed his explorations in the eastern counties. These officers deserve the gratitude of many of our new pupils for finding them out in their almost inaccessible homes, and rescuing them from a helpless and hopeless neglect. The reports of progress together with all similar documents filed in former years, I arranged in volumes each with index and analysis; and these volumes are now being digested into a single large volume which I designate my "census-book." I shall thus be able to keep under easy observation our entire youthful blind population.

Repairs and Improvements.

The present crowded state of the girls' quarters is a constant source of anxiety to the physician and myself, and at the earliest practical moment it should be remedied by the erection of an east wing corresponding to the western extension recently made. The numerical growth of this Institution is quite unexampled. In 1871, the work commenced with 11 pupils. For the session just entered on, the number of arrivals has already exceeded 170, and many more pupils are on the way. To keep pace with this rapid development, we of course require additional buildings, specially planned to meet our requirements. So far as I am aware, there never has been a voice raised in our Legislature against the expenditure on this Institution. On the contrary, successive ministries have been assured by successive opposition leaders, that whatever sums may be considered necessary for the effective work of the place will be cheerfully approved. Certainly the crime of extravagance cannot be laid to our charge. In the erection of buildings, the work has been done so cheaply that the first contractor was ruined, and every subsequent contractor had been impoverished by this Institution.

During this spring and summer a residence for the Principal has been in course of erection and it is now approaching completion. In preparing sketch plans for your approval, I endeavoured to prepare a design which, at a moderate price, would be worthy of the magnificent site, and would harmonize with the general style of our other buildings. The public eye appears to strongly approve of both the building and the site, while the cost has fallen short of the price paid for Superintendents' residences that are certainly less commodious and less ornamental. I understood that for heating purposes the hot water system should be employed, which is ultimately the most economical of all heat, if the cost of fuel and attendance be worth considering. The interior details of this house are arranged on this basis, and I trust that the careful work expended by the contractor, Mr. Large, on the walls, ceilings, and floors, will not be disfigured and destroyed by stove-pipes and stove-pipe holes. The Architect of Public Works, the draughtsman, the contractor, and the Clerk of Works, and myself, have all done our best to produce at the lowest possible price, a creditable piece of work, and it is surely not asking too much to

ask that the work be not hacked to pieces, with the result after all of leaving the house cold and uninhabitable.

The most dangerous of the loose plaster ceilings have been sheeted with narrow matched boards neatly painted in oil. I selected for the last two coats a delicate tint of blue which is restful to the eye and which has the optical effect of increasing the apparent elevation of the ceilings, just as a yellow tint produces the illusion of nearness. Sidewalks connecting the new wing with the existing sidewalks and a flight of steps terminating the west wing were also provided. For these and many other improvements we are indebted to the kind offices of the Honourable A. S. Hardy, when Acting Commissioner of Public Works. The Hon. Acting Commissioner frequently visited the premises during the summer and ascertained our wants by personal enquiry and observation. Indeed it is not too much to say that, but for his kind intervention and active exertions, our buildings would scarcely have been habitable this session. I invited his attention to the worn-out and unserviceable floors, and still more especially to the condition of the steam-service; but, in view of the expected return of the Hon. Commissioner, action on these matters was deferred. The steam-service of this Institution urgently demands attention. The service of the new wing is laid on recent and improved principles; that in the older buildings represents the earliest phase of steam-heating; yet the attempt is made to heat both buildings off the same main, and, worse still, off boilers that have been condemned by the Boiler Insurance Co.'s Inspector, as quite inadequate to the work imposed on them. On a cold day the circulation of steam in the main building is of the very feeblest. In order to *coax* it into activity, waste pipes have been tapped into every coil and sometimes carried long distances into the cellar spaces. Frequently through a cold day our faithful Engineer, Mr. Harrison, or one of the firemen, may be seen drawing off large volumes of condensed water at these "relieving stations." By this expedient, which I hope is a rare one, we may possibly get through the winter, unless it should prove severe; in this latter contingency, Sir, I shall have to fall back upon your resources, for really I am at the end of mine.

Towards the improvement of the grounds substantial progress was made during the year. The ground surrounding the new wing which was left by the builder in a very rough state, has been terraced, and the entire Institution has been girdled with a broad belt of sod. A "boulevard" carried through the western half of the yard to the termination of the work-shop building has also been sodded and planted with shade-trees. In this laborious work I received valuable assistance from Mr. Truss and the shop-boys. I have levelled the whole of the remaining tract, lying between the Institution and the work-shop, and given it a heavy coat of fine river gravel. A large number of trees were planted, and they are, with few exceptions, still thrifty and vigorous. Our bedding plants were chiefly obtained from our little conservatory which has also furnished the greater part of the flowers and foliage plants that now add so much to the appearance of the school-rooms. We greatly require a good green-house to do justice to our grounds and furnish the material for decorative gardening. With the vastly increased attendance we urgently require additional manual help, both inside and without. The Carpenter's half day is utterly inadequate now to maintain school-room and general repairs, and construct new apparatus. Another hand on the grounds is greatly needed. Our crops this year have proved a very fair return, but we have not yet obtained *that root house* for their reception.

As I close this Report there are in attendance forty-five pupils more than have ever before been gathered under our roof, and our Institution has now become, if not the largest, the second largest on this continent. I am anxious that it shall become foremost also in efficiency. I trust that you, Sir, will take our ease into your most liberal consideration; and that acting under your advice, the Government and the Legislature will furnish this Institution with the money, the buildings and the appliances necessary for the proper discharge of the trust that it has undertaken.

I have the honour to be, Sir,
Your obedient servant,

J. HOWARD HUNTER, M.A.,
Principal.

PHYSICIAN'S REPORT.

J. W. LANGMUIR, Esq.,
Inspector of Prisons, Asylums, &c., &c.,
For the Province of Ontario.

SIR, I have the honour to submit the following as the Report of the Physician to the Institution for the year now closing.

I have unusual satisfaction in stating that the sanitary condition of the Institution has proved most satisfactory throughout the year; death has not invaded our numbers and we have been spared the visitation of disease in any of its serious and threatening forms. The origin and propagation of disease have not been fully solved with scientific accuracy, but, so far as understood, it has been the joint aim of the Principal and myself to remove or avoid all disease-producing causes, relying upon the literal truth of the old adage that "an ounce of prevention is better than a pound of cure." The immunity we have thus enjoyed is thus largely due to our excellent water supply, believed to be removed beyond the accident of pollution from any source, and also to the very healthful location of the Institution itself. We have endeavoured to supplement these aids to health by the observance of such sanitary and hygienic regulation on the part of pupils as shall ensure the best safeguards against the encroachments of disease. In this connection I may state that during every rainstorm of ordinary duration the water comes dripping by the painful through the ceilings of the dormitories and other rooms producing a state of things very unpleasant and uncomfortable and not at all conducive to health. I am happy to learn, however, that the leaky roof is about to be made water-tight. I may also add that while the food has been generally furnished in wholesome quantity and variety yet the contractors for the butter and meat respectively have not always been faultless in their supplies.

The cases of serious illness during the year have occurred among the *employees* of the Institution, to the most noticeable of which only slight allusion can be made. The wife of teamster Tillotson suffered a severe attack of pelvic peritonitis following confinement, but eventually made a good recovery. I also attended the wives of two other employees, living outside the grounds, in which the labour was complicated by a necessity for instrumental delivery which was accomplished with safety to mother and child in both instances. The infant child of Mr. Truss, trades instructor, was the subject of erysipelas extending the whole length of the limb from the foot to the body, and though life hung in a balance for several days the little patient eventually passed through the disease in safety. Last spring the porter Willis was accidentally thrown from a horse by which he sustained a fracture of the clavicle or collar bone; and, in the course of two weeks afterwards, one of the pupils, a tall athletic fellow, met with a similar misfortune while engaged in wrestling. Both fractures were dressed according to the fulcrum and lever principle of Dr. Sayre's adhesive bands, and both cases in the excellence of the result furnished additional evidence of the superiority of this mode of treatment.

While we have escaped the presence of acute diseases to any extent, an unusual number of chronic cases have occupied our attention, requiring in fact, double the labour of any previous year. Our time has been taken up largely in the treatment of eye diseases and our efforts in this department I believe to be increasingly useful.

I cannot conclude without directing your attention once more to a matter of supreme importance, although it may seem unnecessary after all the representations which have been made to the Government as to the necessity of a new wing for the present large addition to our numbers. I know that Governments, like large bodies, move slowly, but I venture to make one more appeal for the additional accommodation so urgently needed, in the hope that, like the man in the parable, we shall be heard because of our importunity.

I acknowledge, with pleasure, the continued co-operation of the Principal in putting into execution such practical sanitary measures as are deemed essential to the welfare of all concerned.

The following table exhibits the range of disease in the Institution during the year :—

Abscess,	Hemorrhoids,
Accouchement,	Hernia,
Adenitis,	Hordeolum,
Ague,	Icterus,
Anæmia,	Keratitis,
Aphthæ,	Lumbago,
Bronchitis,	Menorrhagia,
Bronchocele,	Mensium suppressio,
Caries of bone,	Morbus coxarius,
Catarrh, Naso-pharyngeal,	Myalgia,
Cephalalgia,	Neuralgia,
Clavicle, fracture of,	Odontalgia,
Colic Abdominal,	Otorrhœa,
Conjunctivitis,	Peritonitis, pelvie,
Constipation,	Phlyctenulæ,
Contusion,	Pleurodynia,
Deafness,	Quiusy,
Diarrhœa,	Rheumatism,
Dysentery,	Spermatorrhea,
Dyspepsia,	Sprain,
Epilepsy,	Stomatitis,
Erysipelas,	Teeth, extraction of,
Erythema,	Urine, nocturnal incontinence,
Febricula,	Vermes,
Febris,	Wounds, various.
Furunculus,	

I have the honour to be, Sir,
Your obedient servant,

WILLIAM C. CORSON, M.D.,

Sept
Larchmont for the Board
Jamestown Ky